**22W\_CST8116\_451 Intro to Computer Programming**

Assignment #6 Java Objects, Classes and UML Class Diagram

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## Question 1

Create a class Vehicle.

* 1. The class should have two fields:
     1. no\_of\_seats and no\_of\_wheels.
  2. Create two objects
     1. Motorcycle and Car for this class.
  3. Your output should show the descriptions for Car and Motorcycle

### Code and Runtime Results

Graphical user interface, text, application

Description automatically generated

## Question 2

Create a class with a method. The method has to decide whether a given year is a leap year or not.

1. *Note: A year is considered a leap year if:*
   * 1. It has an extra day i.e. 366 instead of 365.
     2. It occurs every 4 years e.g. 2008, 2012 are leap years.
     3. For every 100 years, a special rule applies - 1900 is not a leap year but 2000 is a leap year. In those cases, we need to check whether it is divisible by 400 or not.

### Code:

Text

Description automatically generated

### Runtime Results:

Graphical user interface, text, application, email

Description automatically generated

Graphical user interface, text, application, Word

Description automatically generated

Graphical user interface, text

Description automatically generated

## Question 3

Create a class with a method to calculate the factorial of a number.

### Code:

Graphical user interface, text, application, email

Description automatically generated

### Runtime Results:

Graphical user interface, text, application, email

Description automatically generated

Using a larger number which results in scientific notation being used:

Graphical user interface, text, application, Word

Description automatically generated

## References

### Software

Eclipse Foundation. (n.d.). Eclipse IDE for Java Developers, Version (2021-12(4.22.0). *Eclipse.org*. Retrieved January 20, 2022, from <https://www.eclipse.org/> .

Amazon. (n.d.). Amazon Corretto Java Development Kit, Version (11.0.13.8.1). *Amazon Corretto*. Amazon. Retrieved January 20, 2022, from <https://aws.amazon.com/corretto/>